



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/693,654	10/20/2000	Gary J. Nehring	7719-078	7281

7590 06/06/2003

Brinks Hofer Gilson & Lione
P.O. Box 10395
Chicago, IL 60610

EXAMINER

NGUYEN, THUKHANH T

ART UNIT	PAPER NUMBER
----------	--------------

1722

DATE MAILED: 06/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/693,654

Applicant(s)

NEHRING, GARY J.

Examiner

Thu Khanh T. Nguyen

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12-22 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-22 and 24-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 5-10, 12-15, 17-20, 22 and 24-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Muirhead (6,294,114).

Muirhead discloses a rotary thermoforming apparatus comprising, in combination, a first and second loading stations, or frames (1, 4, col. 3, lines 53-67) for loading a first sheet and a second sheet, a first and second heating station (26, 28) for preheating the first, second, and third sheet (col. 3, line 57- col. 4, line 4); a molding station with a first platen (44a) for molding the first sheet (25a) and a second platen (42a) for molding the second sheet (25b); and means for inserting a preform (Fig. 10, 27) in between the heated sheets (25a, 25b); an unload station (4); a carousel assembly (12) for receiving and transferring the sheet to different stations.

The apparatus further comprises a drive motor (col. 10, lines 30-32) for rotating the carousel; a drive means including a plurality of gear racks (58) and another motor for driving the mold platens up and down (col. 10, lines 54-59), air bags, or air bladders (61), a platen locking mechanism (col. 11, lines 1-4) and a plurality of bayonets with bayonet pins (63).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3, 16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muirhead (6,294,114) as applied to claims 1-2, 5-10, 12-15, 17-20, 22 and 24-26 above and further in view of Weisner et al (4,445,200).

Muirhead discloses a rotary thermoforming apparatus as described above, but fails to disclose a sensor for sensing sag of the sheet panels.

Weisner discloses an apparatus for molding skylights, comprising a sensor (col. 8, lines 49-52) for sensing the height of the dome, or the drift of the sheet material, during the molding process.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Muirhead by providing a sensor for sensing the sagging of the sheet material during forming as taught by Weisner, because the sensor would facilitate the control of the heating or cooling of the mold during the forming process in order to obtain products having predetermined sizes and shapes.

5. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muirhead (6,294,114) as applied to claims 1-2, 5-10, 12-15, 17-20, 22 and 24-26 above and further in view of Walker (4,571,320).

Muirhead discloses a rotary thermoforming apparatus as described above, but fails to disclose suction lift cups at the loading station.

Art Unit: 1722

Walker discloses an apparatus for loading and unloading molding sheet (16) between an upper die (18) and a lower die (20), including a loader/unloader fork (24) with a plurality of suction cups (26) to deposit raw sheet material to the mold and to remove the formed product from the mold cavity.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Muirhead by providing a loading/unloading assembly with a plurality of suction cups as taught by Walker, because the suction cups would facilitate the deposit of sheet material and/or removal of the product during the molding process without the need to remove the sheet supporting frame.

Response to Arguments

6. Applicant's arguments with respect to claims 1-10 and 12-22 and 24-26 have been considered but are moot in view of the new ground(s) of rejection.

The new added limitations to the claims have overcome the rejections over the Shuert reference. However, Muirhead ('114) discloses most of the features that being claimed in the current application such as different loading frames for sequentially supplying and delivering the first and second sheets to the heating stations (col. 3, lines 57-67), means for positioning an insert at the forming station (col. 16, lines 14-16). Wherein each of the loading frame is a loading station; thus, the sheets are loaded in sequential steps into different heating frames.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 1722

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

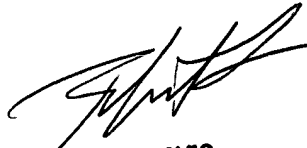
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thu Khanh T. Nguyen whose telephone number is 703-305-7167. The examiner can normally be reached on Monday- Friday, 6:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 703-308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

TN
May 31, 2003


ROBERT DAVIS
PRIMARY EXAMINER
GROUP 1300 1722

6/2/03